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Serial Number: 10/612,763   Dkt: 884.934US1
Filing Date: June 30, 2003
Title: PROCESSOR BASED SYSTEM AND METHOD FOR VIRUS DETECTION

REMARKS

This responds to the Office Action mailed on October 11, 2006.

No claims are amended, canceled, or added; as a result, claims 1-26 remain pending in this application.

§102 Rejection of the Claims

Claims 1-7, 10, 11 and 13-17 were rejected under 35 USC § 102(b) as being anticipated by Frantzen et al. (Hardware Facilitated Stack Protection, Proceedings of the 10th USENIX Security Symposium, August, 2001)(hereinafter "Frantzen"). Applicant respectfully traverses the rejection of claims 1-7, 10-11, and 13-17 because Frantzen fails to teach or suggest all of the claim elements.

For example, independent claims 1, 7, and 11, each include similar language that provides a first functional unit and a second functional unit. The first functional unit, as claimed is provided to receive instructions, determine whether ones of the instructions are associated with a virus, and transmit the one of the instructions not associated with the virus to the second functional unit. Thus, as instructions enter an execution pipeline, individual instructions first flow to the first functional unit to determine if the individual instruction is associated with a virus and then the instruction, if not associated with a virus, flows to the second functional unit where the instruction may be executed.

In contrast, the first paragraph under the heading "3 Implementation" of Frantzen recites:

> "The beauty of StackGhost is that it doesn't have to operate on every function call. StackGhost only needs to be invoked in deep function call sequences or recursive programs – when the program overflows or underflows the register windows and thus interact with the stack. If a programs only performs shallow functional call sequences, StackGhost may never be invoked to write register windows to the stack."

This recitation of Frantzen shows clear contrast between independent claims 1, 7, and 11 and Frantzen. This contrast can be characterized as Frantzen is only able to detect an attack including deep function call sequences or recursive programs where the present claims are not so limited, but may detect a virus attack at the point of the individual functional call. Thus,

Applicant respectfully submits that independent claims 1, 7, and 11 are patentably distinct over Frantzen.

Claims 2-6, 10, and 13-17 depend, directly or indirectly, from patentable independent claims 1, 7, or 11, and are patentable for at least the same reasons.

Applicant further submits that claims 2-6 and 10 are further patentable because these claims are directed to the first functional unit and provide additional detail as to what the first functional unit is and does. Applicant respectfully is unable to find any equivalent teachings described in Frantzen.

Thus, Applicant respectfully requests withdrawal of the rejections and allowance of claims 1-7, 10, 11 and 13-17.

§103 Rejection of the Claims

Claims 8, 9, 12 and 18-26 were rejected under 35 USC § 103(a) as being unpatentable over Frantzen.

Claims 8-9 and 12 depend, directly or indirectly, from allowable independent claims 7 and 11 and are patentable for at least the same reasons.

Independent claims 18 and 21 include similar language as independent claims 1, 7, and 11 and are patentable for the same reasons.

Independent claim 18 further includes a virus information unit to store virus signatures, an authentication unit to authenticate the source of the virus signatures, and a virus detection engine to compare instructions to the virus signatures. Applicant is unable to find such teachings in the description of Frantzen. This is acknowledged in the Office action at the top of page 4. The Office follows that acknowledgement with a discussion of virus signatures with regard to Frantzen. However, Applicant is unable to locate any discussion of virus signatures anywhere within Frantzen.

Further, the rejection 35 U.S.C. § 103(a) rejection of claims 8, 9, 12 and 18-26 is based only on Frantzen. Applicant respectfully traverses the single reference rejection under 35 U.S.C. § 103 because, as discussed above, not all of the recited elements of the claims are found Frantzen. Since all the elements of the claim are not found in the reference, Applicant assumes that the Examiner is taking official notice of the missing elements. Applicant respectfully

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objects to the taking of official notice with a single reference obviousness rejection and, pursuant to M.P.E.P. § 2144.03, Applicant respectfully traverses the assertion of Official Notice and requests that the Examiner cite references in support of this position.

Thus, absent a reference, or other evidence, providing a teaching of all of the elements of the claims, Applicant respectfully submits that claims 8, 9, 12 and 18-26 are patentable over Frantzen. Allowance of claims 8, 9, 12 and 18-26 is therefore, respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 349-9587) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.
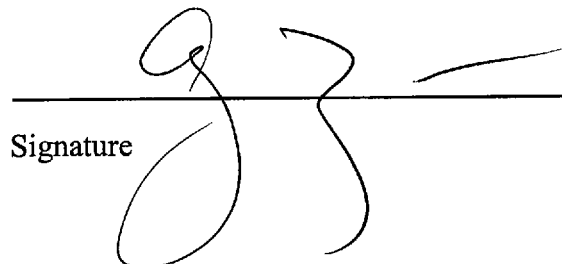
Respectfully submitted,

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Date 11 April '07

By _____
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexendria, VA 22313-1450 on this 11th day of April 2007.

Amy Moriarty

Name

Signature